

## Claims

1. A rotating electrical machine with a contacting device whose circumference has at least one slide contact disposed on it, which remains in sliding contact with a brush apparatus (slide system), in which the at least one slide contact is comprised of a wear resistant material, characterized in that the electrical machine has an internal cooling system in which a fluid/gas mixture used as a cooling medium circulates around the components to be cooled, including the slide system, and the at least one slide contact is comprised of an alloy with at least one alloy component that has an affinity for oxygen.

2. The rotating electrical machine according to claim 1, characterized in that a main component of the alloy is copper and the alloy component with the affinity for oxygen is a base metal and/or a metalloid.

3. The rotating electrical machine according to claim 2, characterized in that the base metal is an element or a combination of elements from the group including magnesium, zirconium, titanium, hafnium, tungsten, molybdenum, vanadium, and iron.

4. The rotating electrical machine according to claim 2, characterized in that the metalloid is an element or a combination of elements from the group including tellurium, silicon, and boron.

5. The rotating electrical machine according to one of the preceding claims, characterized in that a weight percentage in the alloy of the alloy components with the affinity for oxygen is in the range from 0.05 to 3%, in particular from 0.3 to 0.9%.

6. The rotating electrical machine according to one of the preceding claims, characterized in that the alloy contains companion elements such as oxygen and/or phosphorus in the parts per thousand or parts per million range.

